

AMENDMENT TO THE CLAIMS

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Currently Amended) A method of selecting speech segments for concatenative speech synthesis, the method comprising:

parsing an input text into speech units;

identifying context information for each speech unit based on its location in

the input text and at least one neighboring speech unit;  
identifying a set of candidate speech segments for each speech unit based on the context information, wherein identifying a set of candidate speech segments for a speech unit comprises applying the context information for a speech unit to a decision tree to identify a leaf node containing candidate speech segments for the speech unit, wherein identifying the sequence of speech segments comprises using an objective measure comprising one or more first order components from a set of factors comprising:  
an indication of a position of a speech unit in a phrase;  
an indication of a position of a speech unit in a word;  
~~an indication of a category for a phoneme preceding a speech unit;~~  
~~an indication of a category for a phoneme following a speech unit;~~  
an indication of a category for tonal identity of the current speech unit;  
an indication of a category for tonal identity of a preceding speech unit;  
an indication of a category for tonal identity of a following speech unit;  
an indication of a level of stress of a speech unit;  
an indication of a coupling degree of pitch, duration and/or energy with a neighboring unit; and  
an indication of a degree of spectral mismatch with a neighboring speech unit, and;  
identifying a sequence of speech segments from the candidate speech

segments based in part on a smoothness cost between the speech segments; and  
generating synthesized speech using the sequence of speech segments without further prosody modification.

24. (Cancelled)

25. (Previously presented)      The method of claim 23 wherein identifying a set of candidate speech segments further comprises pruning some speech segments from a leaf node based on differences between the context information of the speech unit from the input text and context information associated with the speech segments.

26. (Original)    The method of claim 23 wherein identifying a sequence of speech segments comprises using a smoothness cost that is based on whether two neighboring candidate speech segments appeared next to each other in a training corpus.

27. (Cancelled)

28.    (Currently Amended)    A method of selecting speech segments for concatenative speech synthesis, the method comprising:

    parsing an input text into speech units;

    identifying context information for each speech unit based on its location in  
        the input text and at least one neighboring speech unit;

    identifying a set of candidate speech segments for each speech unit based on

the context information, wherein identifying a set of candidate speech segments for a speech unit comprises applying the context information for a speech unit to a decision tree to identify a leaf node containing candidate speech segments for the speech unit,

wherein identifying the sequence of speech segments comprises using an objective measure comprising a plurality of components, each component having an associated weighing value, and wherein one or more higher order components being combinations component is a combination of at least two factors from a set of factors including:

- an indication of a position of a speech unit in a phrase;
- an indication of a position of a speech unit in a word;
- an indication of a category for a phoneme preceding a speech unit;
- an indication of a category for a phoneme following a speech unit;
- an indication of a category for tonal identity of the current speech unit;
- an indication of a category for tonal identity of a preceding speech unit;
- an indication of a category for tonal identity of a following speech unit;
- an indication of a level of stress of a speech unit;
- an indication of a coupling degree of pitch, duration and/or energy with a neighboring unit; and
- an indication of a degree of spectral mismatch with a neighboring speech unit;

identifying a sequence of speech segments from the candidate speech

segments based in part on a smoothness cost between the speech segments; and  
generating synthesized speech using the sequence of speech segments without further prosody modification.

29. (Previously presented) The method of claim 28 wherein identifying a sequence of speech segments further comprises identifying the sequence based in part on differences between context information for the speech unit of the input text and context information associated with a candidate speech segment.

30. (Cancelled)

31. (Previously presented) The method of claim 28 wherein identifying a set of candidate speech segments further comprises pruning some speech segments from a leaf node based on differences between the context information of the speech unit from the input text and context information associated with the speech segments.

32. (Previously presented) The method of claim 28 wherein identifying a sequence of speech segments comprises using a smoothness cost that is based on whether two neighboring candidate speech segments appeared next to each other in a training corpus.

33. (New) A method of selecting speech segments for concatenative speech synthesis, the method comprising:

parsing an input text into speech units;

identifying context information for each speech unit based on its location in the input text and at least one neighboring speech unit;

identifying a set of candidate speech segments for each speech unit based on the context information, wherein identifying a set of candidate speech segments for a speech unit comprises applying the context information for a speech unit to a decision tree to identify a leaf node containing candidate speech segments for the speech unit,

wherein identifying the sequence of speech segments comprises using an objective measure comprising a plurality of components, each component having an associated weighing value, and wherein a first component is based on one factor in the set of factors below, and a second component is a combination of at least two factors from the set of factors, the set of factors including:

- an indication of a position of a speech unit in a phrase;

- an indication of a position of a speech unit in a word;

- an indication of a category for a phoneme preceding a speech unit;

- an indication of a category for a phoneme following a speech unit;

- an indication of a category for tonal identity of the current speech unit;

- an indication of a category for tonal identity of a preceding speech unit;

- an indication of a category for tonal identity of a following speech unit;

- an indication of a level of stress of a speech unit;

- an indication of a coupling degree of pitch, duration and/or energy

with a neighboring unit; and  
an indication of a degree of spectral mismatch with a neighboring  
speech unit;  
identifying a sequence of speech segments from the candidate speech  
segments based in part on a smoothness cost between the speech  
segments; and  
generating synthesized speech using the sequence of speech segments without  
further prosody modification.

34. (New) The method of claim 33 wherein identifying a sequence of speech segments further comprises identifying the sequence based in part on differences between context information for the speech unit of the input text and context information associated with a candidate speech segment.

35. (New) The method of claim 33 wherein identifying a set of candidate speech segments further comprises pruning some speech segments from a leaf node based on differences between the context information of the speech unit from the input text and context information associated with the speech segments.

36. (New) The method of claim 33 wherein identifying a sequence of speech segments comprises using a smoothness cost that is based on whether two neighboring candidate speech segments appeared next to each other in a training corpus.